

# REPORT

DATE: August 18, 2003

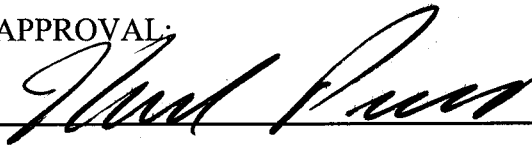
TO: Transportation and Communications Committee (TCC)

FROM: Naresh Amatya, Lead Regional Planner  
213-236-1885; [amatya@scag.ca.gov](mailto:amatya@scag.ca.gov)

Tarek Hatata, Principal, System Metrics Group,  
415-395-7000; [tarek\\_hatata@sysmetgroup.com](mailto:tarek_hatata@sysmetgroup.com)

SUBJECT: **State Highway System Operations**

EXECUTIVE DIRECTOR'S APPROVAL:



## RECOMMENDED ACTION:

Approve Plans and Programs Technical Advisory Committee (P&P TAC) recommendation to adopt the proposed funding increase over current trends for State Highway System Operations.

## BACKGROUND:

As our State Highway System (SHS) matures, it becomes more evident that system expansion cannot keep pace with increasing demand. In fact, expansion projects in recent times represent less than a 0.5 percent increase in capacity annually, significantly lagging population and VMT growth.

As with any mature system, the focus must shift to operations. In the case of the SHS, operational strategies provide a partial answer to increasing congestion and the resulting loss of productivity. In many sections of our Region's freeway system, productivity, measured as the capacity utilization during peak demand conditions, falls well below 60 percent. Recapturing some, if not all, of that lost productivity requires investments in operational strategies, which include:

- Operational improvements, such as auxiliary lanes, ramp widening, interchange and improvements that reduce merging related delays and bottlenecks
- Transportation Management Systems (TMS) such as ramp metering, arterial signal management, incident management, and traveler information systems.

The Planning and Programming Technical Advisory Committee (P&P TAC) has worked closely with SCAG staff and consultants to evaluate the needs and funding trends for SHS operations.

# REPORT

Consistent with the adopted 2004 RTP goal to “Maximize the productivity of our transportation system”, the TAC has analyzed the operational needs of the SHS to make sure that we get the most out of our current system.

Current funding trends show a decline in gas tax revenues over the period of the RTP (i.e., through 2030). These declining trends threaten the Region’s ability to maximize the system’s productivity at a time when national, State and regional research point to operations as one of the few investments that can be implemented rapidly and provide benefit cost ratios superior to most other transportation investments. The attached presentation summarizes the analysis conducted for operations and can be summarized as follows:

- The 2002 State Highway Operations and Protection Program (SHOPP) assigns less than 10% to State Highway Operations investments (\$423 million out of \$4.5 billion over 10 years)
- The current fiscal challenges are likely to reduce this allocation further as the State addresses budget and revenue shortfalls
- Assuming no change from current revenue trends: total expenditures for the region add up to almost \$700 million
- Assuming expenditures grow to address the operational needs and to recapture much of the productivity losses on the system: total expenditures for the region add up to \$2 billion

The TAC has reached consensus on a recommended strategy to address highway operations needs for the 2004 RTP Update. The TAC recommendation is to increase RTP funding for highway operations by \$1.3 billion above current state and local funding trends. This \$2.0 billion totals the estimated amount required to meet most of future highway productivity needs.

This total represents around one percent of total transportation funding in the region and less than \$4 annually per capita. As mentioned before, most studies show that this type of investment leads to significantly higher returns on investment compared to capital expansion investments.

Achieving this investment objective may mean that regional and sub-regional agencies use some of their Regional Transportation Improvement Program (RTIP) funds. Alternatively, the regions may also lobby the State for an increased allocation through the State Highway Operations and Preservation Program (SHOPP), which in turn would reduce the amounts available for RTIP.

If adopted by the policy committees along with the preservation funding recommendations, the largest share (approximately 70 percent) of the innovative financing identified by the financial team would still be available for targeted improvement and expansion projects.

## **FISCAL IMPACT:**

Work related to this item is in the current budget. No fiscal impact anticipated.

## 2004 RTP Update

# State Highway Operations Analysis Results

System Metrics Group, Inc.

## Agenda

State Highway Operations includes several programs:

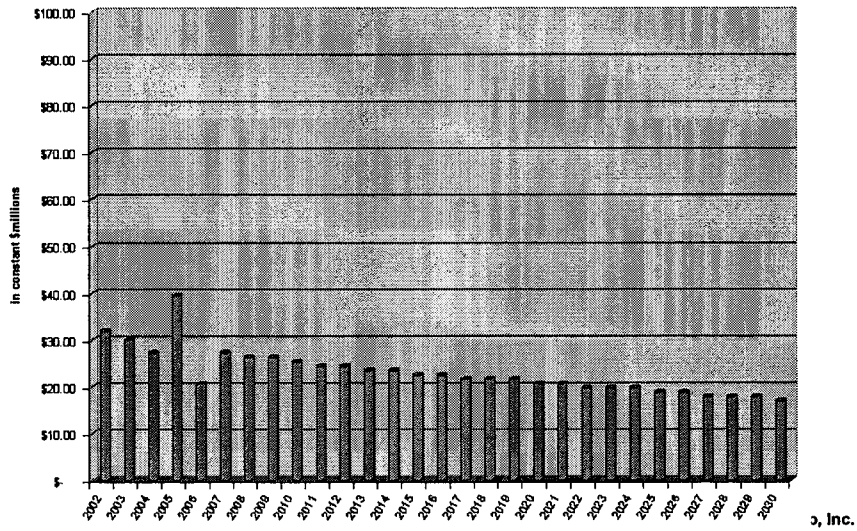
- Operational improvements (e.g., auxiliary lanes, ramp widening)
- Transportation management systems (e.g., ramp metering, incident management, arterial signal management, traveler information systems)
- Weigh in motion
- Other

The 2002 SHOPP assigns less than 10% to State Highway Operations investments (\$423 million out of \$4.5 billion over 10 years)

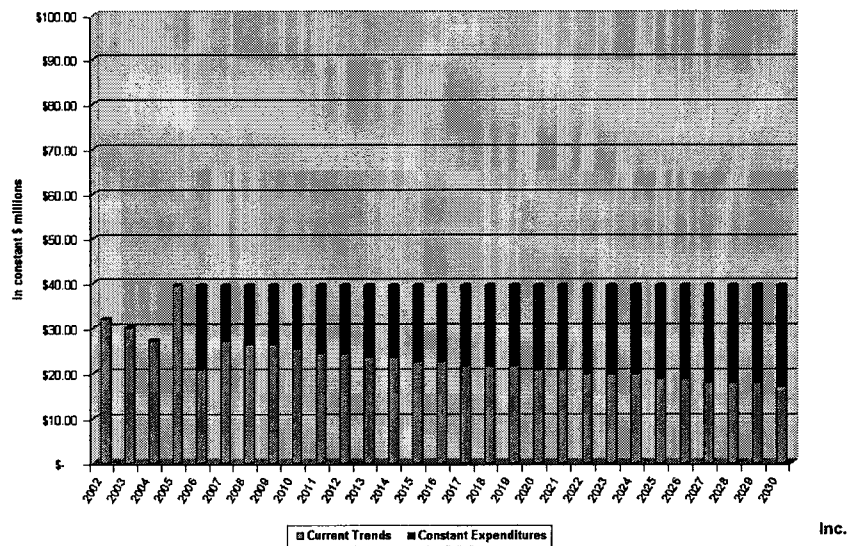
Current fiscal challenges are likely to reduce this allocation further

Operations is being emphasized at all levels of government (e.g., FHWA, State DOTs, MPOs) as a means to re-capture lost productivity and thereby improve mobility and reliability

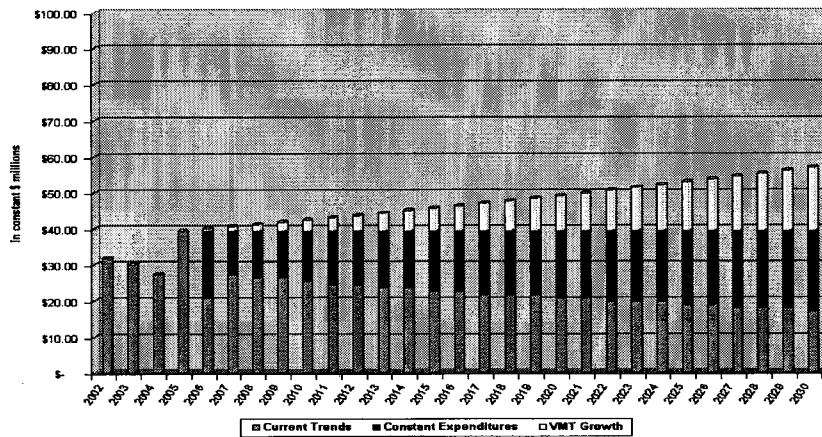
## Similar to preservation, the expected reduction in gas tax receipts leads to a declining trend in expenditures



## Keeping operations investments at constant levels requires an additional \$450 million through 2030



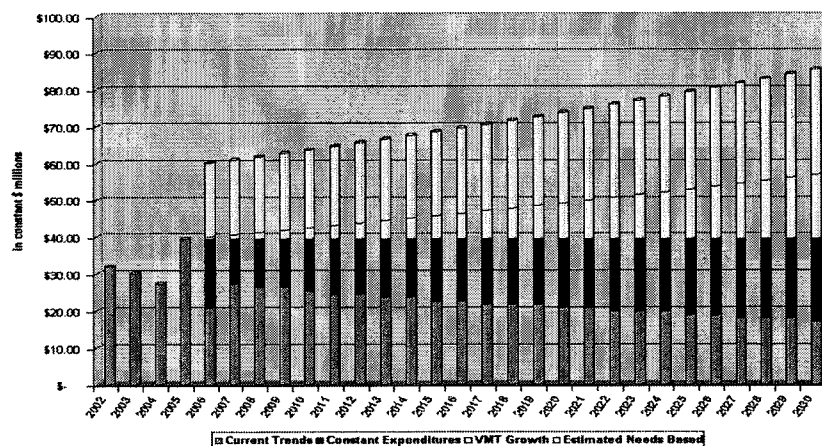
## Increasing investments to make up for increased VMT requires an additional \$200 million through 2030



4

System Metrics Group, Inc.

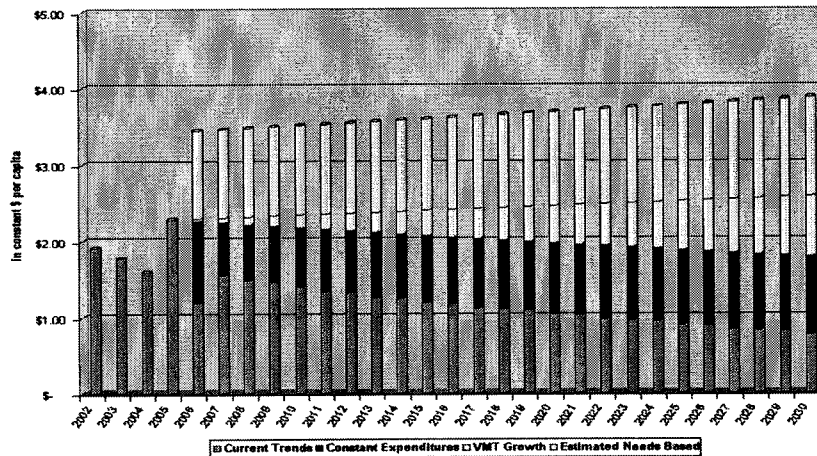
## Operations needs, based on the TMS Master Plan and the SHOPP needs analysis requires at least an additional \$600 million through 2030



5

System Metrics Group, Inc.

**On a per capita basis, meeting all the needs still translates into less than \$4 per capita annually**



6

System Metrics Group, Inc.

## Strategy Options and associated funding needs



No change from current trends: total costs add up to \$670 million

Assume constant state highway expenditures: total costs add up to \$1.1 billion

Assume expenditures grow by VMT: total costs add up to \$1.3 billion billion

Assume needs to improve productivity are met: total costs add up to \$2 billion

At this point, we recommend assigning at least an additional \$1.3 billion to address operations over and beyond current trends. The total (i.e., \$2.0 billion) would still represent less than 1 percent of total transportation funding in the region). Most studies show that this type of investment leads to significantly higher returns on investment compared to capital expansion investments.

Ensuring such an investment may mean that regional and sub-regional agencies use some of their STIP funds, or that they strongly lobby the State for such an increased allocation through SHOPP (which in turn will also decrease available funds for STIP).

7

System Metrics Group, Inc.